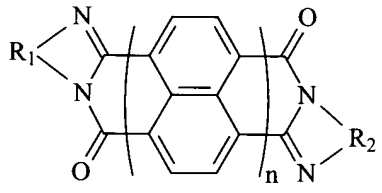
WE CLAIM:

1. An electronic device comprising a semiconductor layer in contact with a number of electrodes, wherein the semiconductive layer includes a compound wherein either or both of the following geometric isomers of the compound are present:



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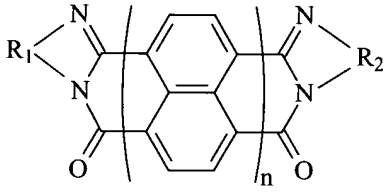


(Cis)

wherein:

n is 1, 2 or 3 for the polycyclic moiety; and

R_1 and R_2 are independently selected from the group consisting of a hydrocarbon ring and a heterocyclic group, wherein R_1 and R_2 are the same or different hydrocarbon ring, the same or different heterocyclic group, or one of R_1 and R_2 is the hydrocarbon ring and the other the heterocyclic group.

2. The device of claim 1, wherein the polycyclic moiety is unsubstituted.

3. The device of claim 1, wherein the polycyclic moiety is substituted at least once by a substituent which is a halogen, a hydrocarbon group or a heteroatom containing group.

4. The device of claim 3, wherein for the substituent on the polycyclic moiety, the hydrocarbon group is an alkyl group or a phenyl group.

5. The device of claim 3, wherein for the substituent on the polycyclic moiety, the heteroatom containing group is an alkyloxy group, an amino group, a nitro group, or a cyano group.

6. The device of claim 1, wherein R_1 and R_2 are the same or different hydrocarbon ring.

7. The device of claim 1, wherein the hydrocarbon ring is a benzo group, a naphthalenediyl group, or an alicyclic hydrocarbon group.

8. The device of claim 1, wherein R_1 and R_2 are the same or different heterocyclic group.

9. The device of claim 1, wherein the heterocyclic group is pyrido, thieno, furo, or pyrro.

10. The device of claim 1, wherein the hydrocarbon ring and the heterocyclic group are unsubstituted.

11. The device of claim 1, the hydrocarbon ring and the heterocyclic group are substituted at least once with a substituent selected from the group consisting of an alkyl group, an alkyloxy group, a halogen, and a nitrogen containing group.

12. The device of claim 1, wherein the device is a thin film transistor.

13. The device of claim 1, wherein both the cis and trans geometric isomers of the compound are present.

14. The device of claim 1, wherein n is 2, R_1 and R_2 are both an unsubstituted benzo ring, and the polycyclic moiety is unsubstituted, yielding benzimidazole perylenetetracarboxylic acid diimide.

15. The device of claim 1, further comprising a plastic substrate.

16. The device of claim 1, the semiconductor layer has a thickness ranging from about 10 nanometers to about 1 micrometer.

17. A thin film transistor device comprising:

an insulating layer;

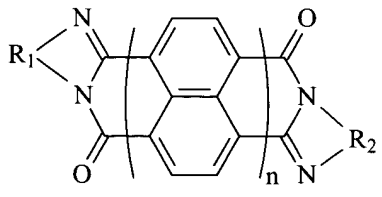
a gate electrode;

a semiconductor layer;

a source electrode; and

a drain electrode,

wherein the insulating layer, the gate electrode, the semiconductor layer, the source electrode, and the drain electrode are in any sequence as long as the gate electrode and the semiconductor layer both contact the insulating layer, and the source electrode and the drain electrode both contact the semiconductor layer, wherein the semiconductor layer includes a compound wherein either or both of the following geometric isomers of the compound are present:



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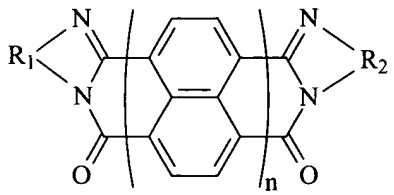

(Cis)

wherein:

n is 1, 2 or 3 for the polycyclic moiety; and

R_1 and R_2 are independently selected from the group consisting of a hydrocarbon ring and a heterocyclic group, wherein R_1 and R_2 are the same or different hydrocarbon ring, the same or different heterocyclic group, or one of R_1 and R_2 is the hydrocarbon ring and the other the heterocyclic group.

18. The device of claim 17, wherein the polycyclic moiety is unsubstituted.

19. The device of claim 17, wherein the hydrocarbon ring and the heterocyclic group are unsubstituted.

20. The device of claim 17, wherein n is 2, R_1 and R_2 are both an unsubstituted benzo ring, and the polycyclic moiety is unsubstituted, yielding benzimidazole perylenetetracarboxylic acid diimide.

21. The device of claim 17, further comprising a plastic substrate.

22. The device of claim 17, the semiconductor layer has a thickness ranging from about 10 nanometers to about 1 micrometer.